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DISCUSSION AND CORRESPONDENCE
THE TEMPLE HILL (ORANGE COUNTY, N. Y.)
MASTODON

THE 101st separate record of mastodon remains in the state of New York and the 31st record for Orange County, have been made by the recent discovery of an almost complete skeleton on the muck lands near Temple Hill about three quarters of a mile northwest of Vail's Gate Junction. The discovery is of exceptional interest. Next to the Warren Mastodon which stands in the American Museum of Natural History, the Temple Hill skeleton follows in order of completeness, all bones being present except a part of the cranium and a few of the ribs. While the skeleton appears to be somewhat larger than that of the Cohoes Mastodon in the New York State Museum, it is evident that the bones are those of a young animal, as the epiphyses are free and there is a full set of four intermediate molars in addition to the complete permanent molars, making in all 12 teeth in both jaws. The animal was found lying on its side with a quantity of triturated plant remains, apparently tamarack, lying between the ribs, evidently the creature's last meal. The skeleton was discovered about the 10th of June and was immediately acquired for the State Museum through the generosity of an appreciative friend.

The Mastodon was the most conspicuous member the mammal fauna of New York ever had, and it is perhaps of special interest to again note, with this occasion, the great abundance of these creatures in the state during the time of the recession of the post-glacial waters, especially over the swampy highlands before the land had settled down to its present altitude. After all the disturbances to which the soil of New York and its contents have been subjected, the wasting by the weather and the various other agencies attacking and destroying the integrity of such remains, the abundance of the recorded discoveries of mastodon bones in the state can only be interpreted as indicating the fact that in their heyday these animals were as abundant here as the buffalo were on the plains

75 years ago; and it is also a fact worthy of consideration by those giving attention to soil changes, that of all these 101 recorded skeletons but two or three have been preserved in anything approaching entirety.

SHERMAN C. BISHOP
 NEW YORK STATE MUSEUM,
 July 6, 1921

A MORE PHENOMENAL SHOOT

THE July 1, number of SCIENCE records a "phenomenal shoot" which grew near Raleigh, N. C. This shoot grew from the stump of a beheaded tree of *Paulownia tomentosa* in one season to the length of 19 feet 5 inches; had twenty internodes, and was 7.75 inches in circumference at the base. This shoot is thought by Mr. Wells to be "a record for the tree type of woody plant in the temperate zone."

During the past season the writer kept track of a shoot which grew from stump of a beheaded tree of *Paulownia tomentosa*. This shoot grew during the season of 1920 to a length of 21 feet 6 inches, it has twenty-four internodes and is ten inches in circumference at the base. One of the leaves, measured in the latter part of July, was 38 inches in largest dimension. This shoot grew in clay loam soil residual from granite on property adjoining the campus of the University of North Carolina, Chapel Hill, N. C. The shoot is on exhibition in the Geological Museum of the University.

W. F. PROUTY
 CHAPEL HILL, N. C.

A PHYTOPHTHORA PARASITIC ON PEONY

EARLY in May the writers received from Mrs. George Ray, of Erie, Pa., some blighted peonies. Since the cause of the trouble was not at once apparent, cultures were attempted from the diseased portions. These yielded at once a pure growth of *Phytophthora*. As the writers are not aware of any previous report of a *Phytophthora* as a parasite on this host, a brief description of the disease and the causal organism is here made a matter of record, pending further investigation.

Upon the original specimens, which were in fine condition when received, the disease was manifest as a necrotic condition of the bud, involving also the surrounding leaves and extending for several inches down the stem. In general appearance the symptoms are similar to those caused by *Botrytis*, although the infected areas are darker brown or black. No evidence of external fruiting of the parasite was found either upon the original specimens or upon subsequent artificially infected plants. Several attempts were made to isolate a similar organism from diseased peonies in the vicinity of State College, so far without success. Inoculations of the pure culture into healthy peonies, however, readily produced infections, and the characteristic "blighted" symptoms, from which the organism was re-isolated with ease. Inoculations were made upon plants growing out doors with pure culture, using bits of mycelium and zoosporangia, and were successful both with and without wounding of the host. The characteristic symptoms appeared in from three to six days.

The *Phytophthora* in question grows readily upon a variety of artificial media, and in this respect differs from *P. infestans*. The growth is somewhat sparse upon the surface of agar slants, but is abundant beneath the surface.

It has been grown on ordinary beef peptone agar, potato agar, corn meal agar and in beef broth, where it grows luxuriantly submerged but not at the surface. Zoosporangia are produced in abundance and measure $16.7\text{--}22.3\ \mu \times 20.4\text{--}29.7\ \mu$. These measurements correspond closely to those for the zoosporangia of *P. infestans*¹ but are somewhat broader than those of *P. Thalictri*² which would appear to be its closest relative so far as hosts are concerned. Oospores have not been observed either in cultures or tissue sections.

H. W. THURSTON, JR.
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¹ Rosenbaum, J., *Jour. Agr. Res.*, 8: 233-276. 1917.

² Wilson, G. W., *Bull. Torr. Club*, 34: 387-416. 1907.

QUOTATIONS

FAIR WEATHER PREDICTIONS

ONE fixed determination in the office of this *Journal* has been that the monthly issue shall always be ready to go into the mails on the appointed date. The staff has loyally cooperated in this effort, regardless of hours of work. With the notice given in April of an impending strike on the first of May, the matter passed beyond our hands, and when the strike materialized, the record of promptness was effectually shattered.

Fortunately for our peace of mind, the Council of the Society, representative of the membership, had agreed, by formal resolutions adopted at the Rochester Meeting, to wait indefinitely for journals, thereby materially assisting the printer in his stand against what he considered unjust demands from the striking employees.

The labor conditions affected most seriously the hand composition work in the printing office, and this force has been recruited on an open shop basis until it is now greater in number than before. Naturally, men not accustomed to printing chemical articles have had to be developed and trained, so that the new force, at first quite inefficient, is gaining steadily in efficiency. There is now every prospect that the August issue will quickly follow and that the September issue will go into the mails promptly on the last day of August. Pardon anachronisms in the editorials of the July and August issues, in view of the unusual situation.

With all of these troubles upon us, there has been one pleasurable aspect of the situation, the hearty cooperation of both authors and advertisers in the effort to get our work upon a right and permanent basis. Letters received, especially from advertisers, make us feel that there is a strong bond between this *Journal* and its patrons, and we desire here to express our sincere appreciation of that spirit.

One further word only to the authors of papers is added. The preparation of reprints requires a considerable amount of hand composition work and remaking of material. We